

EARTH Academy

2021-2022 Program



SEQUOIA
Riverlands Trust
SERVING LAND and PEOPLE

About Us

Sequoia Riverlands Trust



Valley Oak at Sunset

Conservation Mission

Sequoia Riverlands Trust is a 501(c)(3), non-profit organization based in Tulare County, California. With a mission to inspire love and lasting protection for important lands, SRT is dedicated to serving the lands and communities of the Central San Joaquin Valley and Southern Sierra Nevada. To this end, our conservation department works with landowners, farmers and ranchers, business partners, and governmental agencies, to protect land across the Central Valley. To date, SRT has protected over 40,000 acres.



Lewis Hill Preserve

Nature Preserves

Sequoia Riverlands Trust owns and maintains seven nature preserves, and works closely with the Bureau of Land Management and others to protect and conduct research in the Carrizo Plains, which currently stands as the largest continuous preserved grassland in California. The goal of these conservation efforts is to expand native habitats and improve environmental quality, including water, air and soil quality, and increase water retention in the Central Valley.

Education Program

Community inclusion and education are vital to fulfilling this mission. The Education and Volunteer Department works with school districts, local organizations, non-profits, environmental groups and individuals to engage people of all backgrounds. Our programs aim to foster a community of motivated individuals with shared knowledge who will spread our message and become true stewards of the land. Students learn about environmental topics and careers, and develop a personal connection with the natural world. Volunteers often comment about their feelings of fulfillment from giving back to their community and helping to save their environment.



Wildflowers in the Carrizo Plains

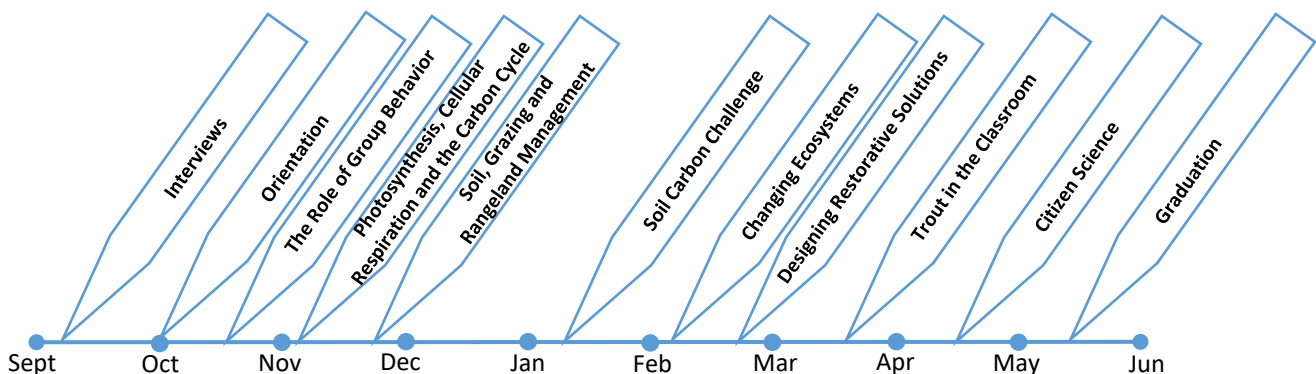
EARTH Academy is a year-long, project-based learning program for high school students in Tulare County to learn more about environmental issues in their local communities. Offered by Sequoia Riverlands Trust, E.A.R.T.H. (Ecosystems, Agriculture, Research, Trout in the Classroom, Horticulture) Academy began in 2018 to promote environmental education in underserved communities.

The EARTH Academy curriculum is tailor-made for the students of Tulare County, and focuses on the environmental issues of the area. Students from schools around the county apply to and interview for the program. If chosen, these students - EARTH Technicians - gain a valuable understanding of their local environment, insight into the perspectives of different stakeholders, and hands-on experience working with environmental professionals.

There are eight modules in the program, each of which starts with a classroom session, where Technicians learn through lectures, videos and in-depth discussions with their peers. After each session, Technicians take a fieldtrip to an SRT preserve or other natural area to apply what they have learned. During these trips, they work side by side with professionals, including scientists, ranchers, educators, and more. They explore and work with the land around them, collect data, and experience first-hand the skills needed for employment in these fields. Technicians will also work with students from other schools, which helps them develop relationships, find common ground and shared interests, and learn from different perspectives.

Each module builds on the last to create a comprehensive view of regional ecosystems and the issues they face. Technicians also have multiple opportunities to practice their public speaking and education skills by sharing the information they learn with other students and community members, many of whom are important stakeholders in the area. After each module, students debrief with SRT staff to reflect on what they have learned and their response, and think further about how to be proactive in their communities. The EARTH Academy program provides Technicians with insight into their local environment and the world beyond, and gives them the tools they need to make a difference, before they even graduate from high school.

Program Timeline



2021-2022 Program Calendar

September						
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October						
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30/31

November						
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

★ Orientation - October 9th

December						
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

January						
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

★ Soil Carbon Community Event

February						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					


★ Annual Wildflower Event

March						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April						
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

★ Graduation - May 14th

 - Work Based Learning Stewardship Events

Curriculum Summary

Module 1: The Role of Group Behavior

Technicians evaluate evidence on how group behavior affects individual and species' chances of survival and reproduction and evaluate the consequences of group behavior. Activities include icebreakers and team building games, studies and observations of plants and animals, and a fieldtrip to Kaweah Oaks Preserve.

(NGSS) HS-LS2-8

Module 2: Photosynthesis, Cellular Respiration and the Carbon Cycle

Technicians learn about the processes of photosynthesis and cellular respiration, and map the movement of carbon between the biosphere, atmosphere, geosphere and hydrosphere. Technicians then use the map to discuss how humans fit into and affect the carbon cycle.

NGSS HS-LS1-5, HS-LS1-7, HS-LS2-5

Modules 3 & 4: Soil, Grazing and Rangeland Management and the Soil Carbon Challenge

Technicians learn about soil properties, how land management and regenerative grazing techniques affect soil and plant health, and how effective management can reduce fuels for wildfires and increase product output. Technicians also work with Soil Carbon Coalition founder Peter Donovan to understand connections between the carbon cycle, water cycle, soil, and human issues. During field trips to Blue Oak Ranch Preserve and Kaweah Oaks Preserve, Technicians practice rangeland monitoring techniques to document current grassland and soil conditions at the preserve, conduct various soil tests in the field, and learn how this data can be used to modify management techniques in the future. Technicians lead demonstrations and discussions to present this information to the general public during the annual soil health event at Kaweah Oaks Preserve.

(NGSS) HS-LS2-2, HS-LS2-5

Modules 5 & 6: Changing Ecosystems and Designing Restorative Solutions

Technicians learn about ecosystem dynamics and changes occurring in local and state ecosystems, and identify changing conditions and their effects on the species in local native habitats. They are shown examples of complex interactions between different species and their environment that allow for population stability. Technicians discuss ways in which humans impact the environment, including investigating local environments for signs of negative human impact, and learn about the natural history of Tulare County. Technicians end with a field trip to Lewis Hill Preserve, where they will learn about the history and ecology of this area with SRT staff and partners.

NGSS HS-LS2-6, HS-LS4-5, HS-LS2-7 and HS-LS4-6

Module 7: Trout in the Classroom

Technicians partner with the Kaweah Fly Fishers and CDFW to guide students from around the county through various stations covering the local watershed, water conservation, soil health, and the natural phenomena of the area. Through this, Technicians gain valuable experience in outdoor education and public speaking.

ELA-LITERACY SL 11-12.4

Module 8: Citizen Science

Technicians learn about citizen science and practice collecting data using iNaturalist and eBird to support scientific studies. Technicians then lead a BioBlitz during a field trip for elementary school students at Kaweah Oaks Preserve. Technicians reinforce their skills by helping lead and train other students and community members during various SRT education events.

NGSS HS-LS4-5